

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
 - a) a polypeptide ~~comprising~~ **consisting essentially of** an amino acid sequence of SEQ ID NO:1,
 - b) a naturally occurring polypeptide comprising an amino acid sequence at least ~~90%~~ **95%** identical to an amino acid sequence of SEQ ID NO:1,
 - c) a biologically active fragment of a polypeptide having an amino acid sequence of SEQ ID NO:1, **wherein the fragment regulates ion channel activity** and
 - d) an immunogenic fragment of a polypeptide ~~having~~ **consisting essentially of** an amino acid sequence of SEQ ID NO:1, said fragment comprising at least 15 contiguous amino acid residues..
2. (Original) An isolated polypeptide of claim 1, having a sequence of SEQ ID NO:1.
3. (Withdrawn) An isolated polynucleotide encoding a polypeptide of claim 1.
- 4.-5. (Canceled)
6. (Withdrawn) A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 3.
7. (Withdrawn) A cell transformed with a recombinant polynucleotide of claim 6.

8. (Withdrawn) A transgenic organism comprising a recombinant polynucleotide of claim 6.

9. (Withdrawn) A method for producing a polypeptide of claim 1, the method comprising:

- a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 1, and
- b) recovering the polypeptide so expressed.

10. (Withdrawn) A method of claim 9, wherein the polypeptide has the sequence of SEQ ID NO:1.

11. (Withdrawn) An isolated antibody which specifically binds to a polypeptide of claim 1.

12. (Withdrawn) An isolated polynucleotide comprising a sequence selected from the group consisting of:

- a) a polynucleotide comprising a polynucleotide sequence of SEQ ID NO:2,
- b) a naturally occurring polynucleotide comprising a polynucleotide sequence at least 90% identical to a polynucleotide sequence of SEQ ID NO:2,
- c) a polynucleotide having a sequence complementary to a polynucleotide of a),
- d) a polynucleotide having a sequence complementary to a polynucleotide of b) and
- e) an RNA equivalent of a)-d).

13. (Withdrawn) An isolated polynucleotide comprising at least 60 contiguous nucleotides of a polynucleotide of claim 12.

14. (Withdrawn) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 12, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and
- b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

15. (Withdrawn) A method of claim 14, wherein the probe comprises at least 60 contiguous nucleotides.

16. (Withdrawn) A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 12, the method comprising:

- a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and
- b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

17. (Original) A composition comprising a polypeptide of claim 1 and a pharmaceutically acceptable excipient.

18. (Original) A composition of claim 17, wherein the polypeptide has an amino acid sequence of SEQ ID NO:1.

19. (Canceled)

20. (Withdrawn) A method for screening a compound for effectiveness as an agonist of a polypeptide of claim 1, the method comprising:

- a) exposing a sample comprising a polypeptide of claim 1 to a compound,
and
- b) detecting agonist activity in the sample.

21.-22. (Canceled)

23. (Withdrawn) A method for screening a compound for effectiveness as an antagonist of a polypeptide of claim 1, the method comprising:

- a) exposing a sample comprising a polypeptide of claim 1 to a compound,
and
- b) detecting antagonist activity in the sample.

24.-27. (Canceled)

28. (Withdrawn) A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a polynucleotide sequence of claim 12, the method comprising:

- a) exposing a sample comprising the target polynucleotide to a compound,
under conditions suitable for the expression of the target polynucleotide,
- b) detecting altered expression of the target polynucleotide, and
- c) comparing the expression of the target polynucleotide in the presence of
varying amounts of the compound and in the absence of the compound.

29. (Withdrawn) A method for assessing toxicity of a test compound, said method comprising:

- a) treating a biological sample containing nucleic acids with the test
compound;

- b) hybridizing the nucleic acids of the treated biological sample with a probe comprising at least 20 contiguous nucleotides of a polynucleotide of claim 12 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 12 or fragment thereof;
- c) quantifying the amount of hybridization complex; and
- d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

30.-45. (Canceled)

46. (New) An isolated polypeptide, wherein the polypeptide comprises an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 1 and regulates ion channel activity.

47. (New) The isolated polypeptide of claim 46, wherein the polypeptide consists essentially of SEQ ID NO: 1.

48. (New) The isolated polypeptide of claim 46, wherein the polypeptide consists of at least one conservative amino acid substitution and regulates ion channel activity.

49. (New) An isolated polynucleotide encoding a polypeptide variant of SEQ ID NO: 1, wherein the polypeptide variant consists of at least one conservative amino acid substitution and regulates ion channel activity.